
A NEW SPECIES OF
STRYPHNODENDRON
(FABACEAE: MIMOSOIDEAE)
FROM AMAZONIAN ECUADOR

Stryphnodendron Mart. (Fabaceae: Mimosoideae) is a genus of 25 known species, primarily Brazilian in distribution. It is well represented in Amazonia by forest trees and in the Brazilian cerrado region by shrubby species (Occhioni Martins, 1974, 1981; Occhioni, in prep.). Recent collections by the senior author and associates in eastern Ecuador, in the course of fieldwork for a floristic study of the trees of the region, have revealed a new species of *Stryphnodendron* at the western edge of the Amazon basin and in the adjacent foothills of the Andes.

Stryphnodendron porcatum Neill & Occhioni f., sp. nov. TYPE: Ecuador. Napo: 1 km N of Coca, Tropical Moist Forest, alluvial soil, floodplain near mouth of Río Coca, secondary forest and pasture, 250 m, 00°25'S; 77°00'W, 15 Sep. 1986 (fl, frt), *David Neill & Walter Palacios 7359* (holotype, QCNE; isotypes, MO, RFA, QCA, QAME, AAU, NY, K, GB, US, about 10 additional isotypes to be distributed). Figure 1.

Stryphnodendro guianensi (Aubl.) Benth. subsp. *glanduloso* Forero foliis simile, sed calyce et corollae lobis aureopubescentibus recedit; a speciebus ceteris epicarpium ornamento, ordinatione irregulare cristarum in fructus valvis differt.

Trees attaining 40 m with trunk to 60 cm diam. Outer bark grayish brown, lenticellate. Young branchlets, inflorescence axis, and petioles with minute dense brown scurfy tomentum. Leaves 15–16(–22) cm long; petiole terete, puberulent 3.5–5.0 cm, with a 1-mm verruciform gland about 2.5 cm from its base; rachis villous 11–12(–18) cm, with rounded glands between the distal 5–8 pairs of pinnae. Pinnae 11–13 pairs, opposite or subopposite, 5–6(–9) cm long, with small rounded glands between the pairs of leaflets, excepting the 2–3 basal pairs. Leaflets 10–13-jugate (6–7-jugate in the proximal 1–2 pinnae), alternate, elliptic, 6–10(–14) × 3–4(–5) mm, the apex retuse or slightly emarginate, the base unequal; venation inconspic-

uous; upper surface glabrous, lustrous; lower surface sparsely and evenly villous, the midrib and margins more densely so, with a dense tuft of villi near the base of the blade; margins slightly revolute and thickened; petiolules 0.5 mm, villous. Inflorescence spicate, cylindrical, axillary, solitary or 2 together; peduncle terete, brown-scurfy, 1–1.5 cm long; rachis densely pubescent, 5–8 cm long. Flowers hermaphroditic, or sometimes all staminate, 3.5–4 mm long, bracts conchiform, deciduous. Calyx cupular, 1 mm with 5 deltoid lobes, densely golden pubescent. Corolla narrowly campanulate, 2–2.5 mm; lobes acute, 1 mm; basal half of corolla glabrous or with a few scattered golden hairs, the lobes densely golden pubescent externally. Stamens 10, free; filaments 3–4 mm; anthers elongate, 0.5 mm, with a stipitate deciduous apical gland. Ovary 1.5 mm, short-stipitate, densely white-pilose; style 2 mm, filiform, glabrous or with a few hairs. Legume subligneous, 10–12(–14) × 2–2.5(–3) cm, slightly curved, dark brown with scurfy epidermis, the epicarp ornamented with a pattern of ridges aligned at an angle from the center of each valve trending proximally toward the edges, forming a repeated, irregular chevron-like pattern. Seeds transverse, ellipsoid-oblong, 8–10 × 5 mm, dark brown, surrounded by sweet gelatinous pulp.

Additional specimens examined. ECUADOR. NAPO: Cañón de Los Monos, 15 km al N de Coca, 250 m, 00°20'S, 77°01'W, 5 Apr. 1985 (frt), *Neill, Baker, Palacios & Zaruma 6365* (MO, QAME, RFA); Estación Experimental INIAP-Payamino, 5 km al N de Coca, Reserva Florística El Chunchu, 250 m, 00°25'S, 77°00'W, 8–11 Aug. 1986 (frt), *Neill, Palacios & Zaruma 7227* (MO, QAME, RFA); 2 km al N de Coca, 250 m, 4 Oct. 1987 (fl), *Neill, Palacios, Cerón & Manning 7837* (MO, QAME); Reserva Biológica Jatun Sacha, Río Napo, 8 km río abajo de Misahuallí, 450 m, 01°08'S, 77°30'W, 2 Oct. 1986 (fl.), *Walter Palacios 1369* (MO, QAME, RFA). PASTAZA: 2 km al NE de Mera, 1,100 m, 01°27'S; 78°06'W (sterile), *Neill, Baker, Palacios & Zaruma 6161* (MO, QAME). MORONA-SANTIAGO: Taisha, 500 m, 02°23'S; 77°30'W, Oct. 1975 (fl, frt), *E. L. Little, Jr. et al. 690* (QAME, US); Sucúa, 1,200–1,500 m, 02°34'S, 78°10'W, 7–9 Oct. 1975 (fl, frt), *E. L. Little, Jr. et al. 670* (QAME, US).

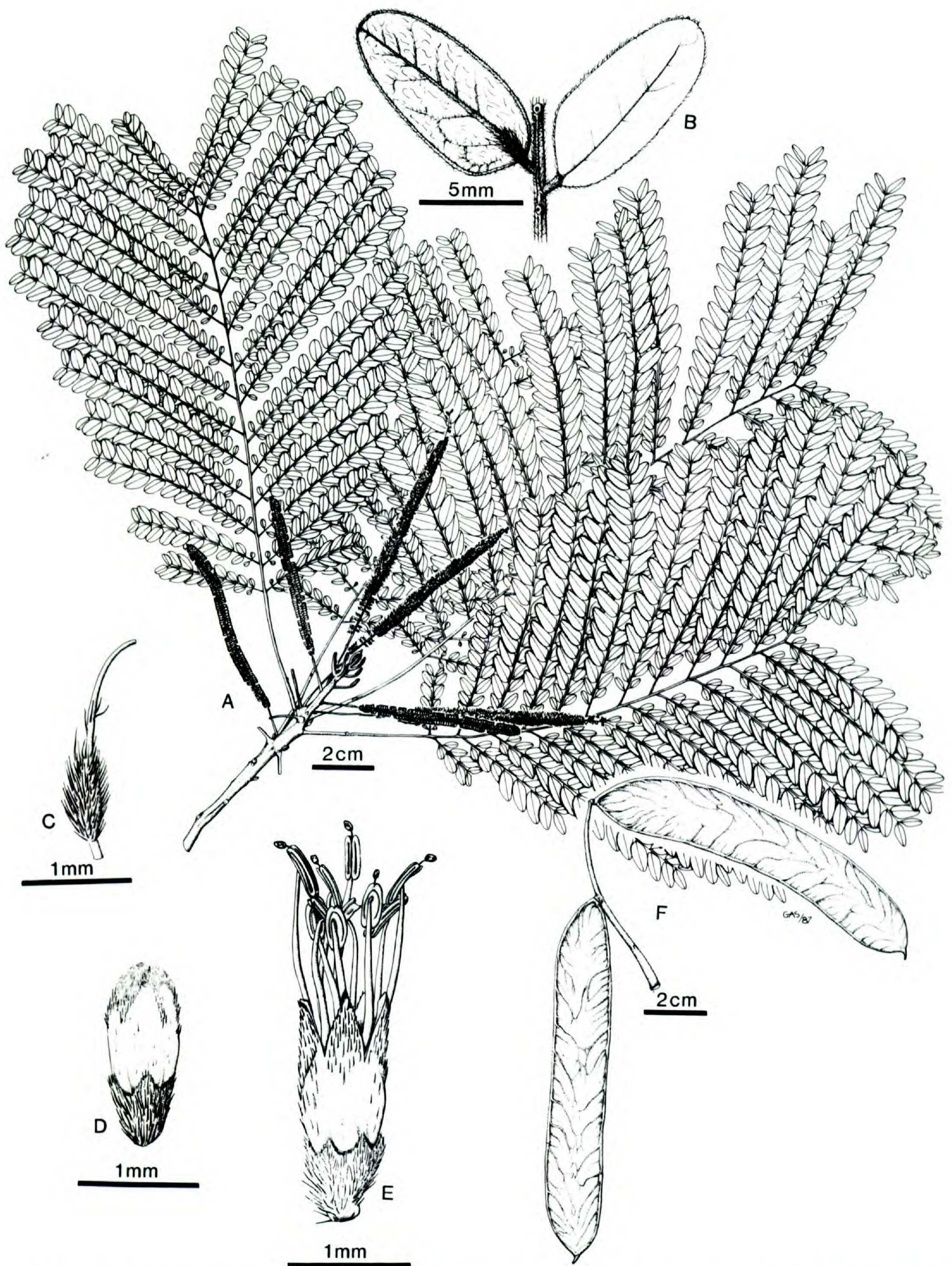


FIGURE 1. *Stryphnodendron porcatum*. —A. Habit. —B. Pair of leaflets, showing upper (right) and lower (left) surfaces, and small glands between each pair of leaflets. —C. Pistil. —D. Flower bud. —E. Open flower. —F. Mature fruits, showing pattern of ridges on epicarp.

Stryphnodendron porcatum is probably most closely allied with *S. guianense* (Aubl.) Benth. subsp. *glandulosum* Forero, known from Peru, Bolivia, and Amazonia in western Brazil, which has similar pubescence of foliage, including the tuft of hairs near the base of the blade, and densely pilose ovary. In *S. guianense* subsp. *glandulosum*, however, the calyx and corolla are short-puberulent externally, whereas in *S. porcatum* the calyx and corolla lobes are densely pubescent with longer, golden hairs, while the corolla tube is nearly glabrous with scattered golden hairs. The typical subspecies of *S. guianense*, which ranges widely in Amazonia and the Guianas, lacks the tuft of hairs at the base of the leaflet blades, and all floral parts are glabrous.

The most distinctive feature of *S. porcatum*, which readily separates it from all other species in the genus, is the striking ornamentation of the legume, an irregular chevron-like pattern of ridges on the surface of the valves. The specific epithet refers to this sculptured surface of the fruits (Latin *porca* = "ridge between two furrows made in plowing"; Stearn, 1966).

Some individuals of *S. porcatum* are evidently female-sterile; the flowers of *Palacios 1369* completely lack pistils.

To our knowledge, this is the first published report of the genus *Stryphnodendron* for Ecuador. No other species are known to occur sympatrically with *S. porcatum* in the Amazon region of the country.

Stryphnodendron porcatum occurs on rich silty alluvial soils of river floodplains, and in Amazonian Ecuador, on upland Oxisol hills up to 1,500 m on the lower slopes of the Andes. In primary forest it attains a height of 40 m with a diameter at breast height of 70 cm. In the region around Coca, Napo Province, Ecuador, *S. porcatum* is also frequent

in secondary forests and is often left in pastures after the surrounding forest is cut.

The sweet pulp surrounding the seeds is similar to that of *Prosopis* and *Gleditsia*. Several trees at the INIAP-Payamino agricultural experiment station near Coca stand in experimental pastures established for raising tropical hair sheep. The sheep eat with great relish the *Stryphnodendron* pods that fall to the ground, apparently attracted by the sweet pulp. The new species therefore shows some promise for inclusion in agronomic trials as part of the agroforestry and silvo-pastoral production systems involving sheep, pastures, and forage legumes now being developed for and implemented by settlers in the Napo region of Ecuador.

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